

## AUGUST HINTS FOR BEAUTIFYING AND PRESERVING THE FLOWER GARDEN

Now perennially thin in the reserve garden, including delphiniums, gillias, aquilegias, etc.

Climbing roses and other creepers require tying up on arches and pergolas.

Unless properly stalked gladioli and dahlias are likely to be broken by the wind.

Bureau Clover is being advertised as a forage plant for which enormous yields of green fodder are asserted. The plant in question is achillea, polygala, achillea, exploited as long ago as 1893, when it was advertised as a wonderful fodder plant for horses, cows, sheep, etc.

The plant is a hardy herbaceous perennial and spreads by stout creeping rootstocks. The stems of well-grown plants become 6 feet and more in height, bearing numerous heart

shaped leaves, and the most was made of these facts in the advertising.

The editor of the garden department tested achillea (the name under which it was advertised), carefully in New Jersey and succeeded in raising large plants that proved hardy, but was unable to persuade stock that it was equal to their regular fodder. Neither horses nor cows would eat it, and rabbits preferred anything else they could get.

It is a native of moist, cool climates and should be tested carefully before making an extensive planting.

Now mignonette in pots for winter flowering.

Flowers are so much a part of the Englishman's daily life as to be considered a necessity. Owners of gardens in England think nothing should be done that will diminish the flow of flowers to the sick and wounded. It is a problem how much of their gardens they will be able to manage with such labor as will be available, as many of the gardeners and their helpers are at the front with the army. A general reduction in the size of next season's gardens will be necessary and many places will suffer for want of proper care.

Cuttings of evergreen shrubs inserted in sandy soil in a cold frame kept covered with ash on a shady border soon root if kept moist. If the frame is exposed the ash can be shaded with lath shades or brush. A soapbox will answer the purpose of a small cold frame and can be covered with a pane of glass. Sit it in a shady place until the cuttings are well rooted.

Many gardens have a rubbish heap, which is always convenient, and useful if not abused. This can be concealed by tall growing plants of any kind, by a trellis covered with vines, a row of privet or evergreen. Weeds can be piled upon the rubbish heap and when well decayed and mixed with lime make a useful mould. Anything that helps enrich the soil is worth keeping. The rubbish pile, however, should not be littered up with old boxes, barrels, tinware and other unsightly material that should be otherwise disposed of.

Where galliarias are growing in the garden, try making cuttings from them for plants for winter flowering or keeping the plants over to set out next spring. In the conservatory cuttings can be made from these plants early in the spring, giving an additional stock of plants for bedding out.

## Edmund Wilson Strawberries

Are as large as small oranges. This and the three other Van Fleet hybrid strawberries are marvels in size, beauty and production. The true wild strawberry flavor. They cover the whole season, from earliest till latest.

Lovett's Pot Grown Strawberry Plants

Planted in summer or autumn, produce a crop of berries the following June. My booklets on Pot Grown Strawberries tell all about them; how to prepare the ground, and cultivate. It shows the "Edmund Wilson" in natural size and color, and accurately describes with beautiful illustrations the Van Fleet hybrids and a score of other choice varieties. Includes the best Everbearing Strawberry and better Strawberries than you have ever had before, plant Van Fleet Hybrid.

J. T. LOVETT, Box 222, LITTLE SILVER, N. J.

For thirty-eight years a Strawberry Specialist.

ATLAS WEED-KILLER

Send for trial qt. Covers 500 sq. ft.

ATLAS PRESERVATIVE CO.

65 Liberty Street, NEW YORK.

BEAUTIFUL

PAEONIES, 20c.

All colors. Hyacinth, Crocus, Tulip, Iris, 100 for \$1.00. Free catalogue of fruits and flowers.

LAKE SHORE NURSERIES, Girard, Pa.

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## SOILS AND FOOD REQUIREMENTS OF PLANTS.

Lime aids nitrification and liberates plant food from insoluble forms of combination. Heavy clays which are rich in insoluble forms of potash and lime containing large quantities of humus are benefited by the use of lime, the key that unlocks the fertility of the soil. Sour soils are neutralized by the action of lime. Where moss and sour grass grow, the soil is almost certain to be sour, requiring a liberal application of lime.

It is generally supposed that lime is lime; that is, that one lime is as good as another, which is not the case for fertilizing purposes. Lime from one section might be cheaper at \$4 a ton than lime from another section at \$3 a ton, considering the results that would be produced.

Before purchasing lime in large quantities it is a good plan to obtain samples, label each sample carefully and send them to the State agricultural experiment station for analysis. Nitrate of soda is the most important purely nitrogenous fertilizer, also sulphate of ammonia and dried blood from the animal kingdom. Calcium cyanamide has recently been introduced and is the first successful attempt at gathering nitrogen directly from the atmosphere for commercial use. Experiments indicate it to be about equal in value to nitrate of soda, but slower in its action.

Muriate of potash and sulphate of potash are the two most important potash fertilizers. The potash in both forms is soluble and immediately available as plant food. Wood ashes contain soluble potash and it is in a good form of combination.

The most important phosphate fertilizers are the ground rock phosphates and the superphosphates made from them. The following table shows the average amount of plant food taken from the soil from a square rod of land by an ordinary crop. Only such portions of the crops as are considered to be usually harvested, the tops, leaves and stems are supposed to be returned to the soil as manure:

	Phosphorus	Acid	Nitrogen	Potash
	Pounds	Pounds	Pounds	Pounds
Apples	1.0	1.0	1.0	1.0
Barley	1.0	1.0	1.0	1.0
Corn	1.0	1.0	1.0	1.0
Cucumbers	1.0	1.0	1.0	1.0
Lettuce	1.0	1.0	1.0	1.0
Onions	1.0	1.0	1.0	1.0
Potatoes	1.0	1.0	1.0	1.0
Tomatoes	1.0	1.0	1.0	1.0
Turnips	1.0	1.0	1.0	1.0

Nitrogen promotes growth and gives size and color to the foliage. For small gardens about half an ounce of sulphate of ammonia to the square yard is sufficient, applied in the spring. A quarter of an ounce to a gallon of water makes a good liquid fertilizer. Nitrate of soda may be used in place of sulphate of ammonia, at the rate of one ounce to the square yard during the growth of the plants, or the same quantity per gallon of water.

Dried blood at the rate of two ounces to the square yard may be used in the spring in place of ammonia or soda. Sulphate of ammonia may be used alone in the spring at the rate of half an ounce to the square yard, dug in or as a surface dressing. Sulphate of iron may be used alone at the rate of half an ounce to the square yard in the spring or the same quantity to two gallons of water as a liquid fertilizer. This last must be mixed in a wooden vessel.

Heavy soils that have been overfed will be benefited by a dressing of two ounces of sulphate of lime to the square yard, applied in the autumn. Guano is excellent for spring and summer use, but for some reason it is not imported as generally as it was a few years ago. One ounce to the square yard in spring and summer or half an ounce to a gallon of water.

Unfortunately, since the European war broke out potash has been difficult to obtain. It increases the quality, flavor and perfume in flowers, fruits and vegetables. When it can be obtained at anything like reasonable prices this should be used in connection with the other fertilizers. Use half an ounce per square yard, in spring or autumn. Nitrate of potash, half an ounce to the square yard in spring or half an ounce to the gallon of water. Nitrate of potash can be used in the same quantity in autumn or spring, or phosphate or sulphate of potash, to be dug in or surface dressing.

Phosphates promotes both flowering and fruitfulness. Crushed bone or bone meal, two ounces to the square yard in autumn, may be used in connection with the nitrogen and potash fertilizers, dug in or surface dressed. Or basic slag can be used in place of bone, four ounces to the square yard, in autumn, dug in or sprinkled over the surface.

Combinations made from any one of the above nitrogen, potash and phosphate fertilizers can be made, thoroughly mixing them, so they can be distributed with one application. After these have been applied add lime at the rate of one pound for each ten square yards.

The State Agricultural Experiment Station will analyze soil without charge, and it can then be fertilized intelligently, knowing just what properties it lacks.

Complete fertilizers are sold by florists and seedmen, and the analysis is given on each package.

## AUTUMN SOWING OF SWEET PEAS.

Sweet peas planted in November or December will do better and bloom longer than peas planted in the spring. Prepare ground in a well drained place. The soil should not be too rich, as too rich soil makes more vine than bloom. The plants will draw their own moisture as needed and if a small amount of fertilizer is put in the water the plants grow in great luxuriance.

A planted box brought into the house before frost comes on growing and if the plants are covered with a glass pane or a sheet of straw to keep the moisture in, will keep out the frost and gas, one may have a perennial delight when snowbound and the garden is sleeping the winter away!

## EXCISION OF BUDS WILL PROLONG THE BLOOMING TIME OF MOST PLANTS

As several persons have written to ask for more information about prolonging the blooming period of plants by reducing the crop of buds, I can only add that nearly all plants will postpone their flowers by excision of the buds in the early stage of growth. The hollyhocks, the perennials phlox and some of the roses respond promptly to this treatment. We have such a feast of flowers in May and June and such a scarcity in July that I was induced to try the reducing method as described in THE SUN of June 11 in relation to the hollyhock. The rose Chitille Souper is so profuse in her first crop of buds that if I do not shear most of them off in the "button" stage, I have no perfect roses from her at all. If I do she gathers up her strength and gives a continuous crop of perfect roses all summer until frost.

Every one knows that by pinching out the terminal bud of cosmos, chrysanthemums and phlox they immediately make a second lateral blooming growth in greater numbers and beauty. One's earliest lesson in gardening is not to waste the strength of the plant by allowing seeds to mature that are not needed. Apropos of this, I remember in my childhood when an old friend called upon my mother to ask why her garden was so full supplied with continuing flowers. My mother said: "Are you not a little stinky with your flowers?" "Yes," she replied. "I hate to cut them." "Well," my mother replied, "flowers must not be allowed to die on their stalks. Give them away. Let others enjoy them too. Cast your bread upon the waters, you know!"

A little foresight and some judgment will change the colorless aspect of the neglected garden in the lean months of July and August.

After the spring pageant is over, the

## THE CANADA THISTLE.

The Canada thistle is, considering it from a neutral standpoint, quite an ornamental and attractive plant. The foliage is a beautiful waxy green, somewhat resembling very holly leaves. The flower, too, is attractive, and except for its very bad habits this plant would probably be grown in gardens.

With plants, as with people, appearances are sometimes very deceiving. In our Northern States no plant bears such a bad reputation. It has been condemned by the laws of twenty-five States or more, and no plant is more generally disliked.

The unpopularity of the Canada thistle is due to its persistent resistance to extermination. It does not injure the quality of farm products as much as wild onion and wild garlic. It spreads rapidly and in a few years will completely occupy the land, rendering it unfit for farming purposes and greatly depreciating its market value.

The long, cordlike, perennial root of the plant penetrates the soil to a depth of from eight to fifteen inches or more, from which leaf shoots grow in the surface and develop into full grown thistles. An entire patch of thistles may be attached to one root, and in reality be but one plant.

The root is exceedingly hardy and can live over winter through a patch of frozen ground in a dormant condition. Pieces of the root that are broken off by a plough or cultivator and carried to other places will begin to send up leaf shoots on the arrival of the first warm, moist period, establishing a new patch of thistles.

When the leafy stems cut down during the winter, the plants are left in the ground and this process may be repeated from two to ten times before the root becomes exhausted. When the plants flower and produce seeds the wind scatters them everywhere. A small patch of thistles may infect a whole neighborhood if allowed to go to seed. The seeds are frequently brought on to farms and gardens in straw, hay, oats and in grass and clover seed.

The roots as well as the tops must be killed to get rid of thistles. Simply cutting off the tops a few times has much the same effect as pruning a privet hedge. The tops must be cut off deep and frequently to suffocate the root through lack of leaves. Cut the thistles at least twice a week with a sharp hoe or a grub hoe. If the thistle gets over six inches high at any time all previous work will be undone. Weed killers can be applied to the cut root and will be helpful. Weed killers may also be used on the plants but if used in liberal quantities nothing can be raised on the land for a year or two afterward.

Another plan is to spread salt for animals over the patches of thistles, which will finally disappear under this treatment.

Another plan for killing thistles in troublesome small patches where the land is to be planted as soon as possible is to cover them with overlapping strips of tar paper or building paper, weighting the paper down with earth, leaving the paper on eight or ten weeks during summer. A coating of straw or manure will not more in depth will do the same thing.

## A PERENNIAL PLEASURE.

To be independent of the watering can is a very desirable thing in the window garden and in the care of the lawn.

The self-watering plant receptacles are not new, but they are not yet in general use or even appreciated in the East.

One can now leave home for a fortnight and if the reservoir in the base of the plants will draw their own moisture as needed and if a small amount of fertilizer is put in the water the plants grow in great luxuriance.

## PYRETHRUMS.

All flowers of daisylike contour are valued for house decoration. The pyrethrums are valuable on account of the durability of their blooms both on the plant and when cut. Their brilliant colors range from white and yellow through the various shades of rose and pink to rich crimson, scarlet and magenta.

Those preferring single flowers to double will find all they desire in single pyrethrums, but for best effects they must be grown in groups. Two seasons are required to form clumps that will produce a hundred blooms each or more, though under good culture in light, deep, rich soil very good plants will be established in a year.

The cultural requirements are simple, giving them as nearly as possible the soil mentioned and an abundant supply of water in dry seasons. They will supply quantities of flowers during the seasons May and June, and frequently again in August and September.

Many flowers of this form, such as single dahlias, drop their petals, but

## STATE FAIR NOTES.

The dairy yield of New York State is \$100,000,000 annually, and is steadily growing. At the State Fair at Syracuse there will be butter making contests daily in the dairy building and experts will be present for consultation and to answer questions. The money prizes in the dairy classes amount to \$3,000, in addition to gold and silver medals. Dairy machinery representing many thousands of dollars in value will be on exhibition, including the very latest devices useful in dairy work.

Prizes in the cattle department total \$13,000, and as the hoof and mouth disease has been wiped out, there will be fine herds of cattle exhibited from the West, the first time in several years. The cattle exhibit from New York and surrounding States promises to be both large and fine.

A large enclosure has been provided to accommodate the wild fowl exhibit in the poultry building. A pond sufficiently deep to permit the birds to dive and bathe will be located in the center. Many species of swans, geese and brandt will be displayed, also wood duck, teal, mallards, black ducks and pintails.

The models of the College of Forestry, which received a gold medal at the Panama-Pacific Exposition, will be on view at the State Fair, showing virgin forests, forests as left by the lumberman and a forest as it should be reproduced and models showing the effect of erosion.

Each county in the State may send a representative to the spelling bee at the expense of the State Fair Commission. The contest will begin at 10 A. M. Tuesday, September 12. Four gold prizes will be awarded to the winners, with a certificate of proficiency bearing the seal of New York State.

Though we fail to see just what educational or agricultural advantage is to be derived from this exhibition, it is a step toward the preparation of a series of flights in his aeroplane at the State Fair. Smith thrilled thousands with his upside-down flying and spectacular night exhibitions at the Panama-Pacific Exposition, and since this time has been in Japan instructing army officers how to fly.

## VEGETABLE PERFUMES.

The production of plants for oils for perfumery and as flavoring agents has become of considerable importance in France, Germany, Italy, Spain and England. At Grasse, France, perfume yielding plants are cultivated extensively and the manufacture of scents there provides employment for thousands of people. Orange trees, roses, tuberose, jasmynes and violets are the plants chiefly grown.

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## ATLIED WITH GOD.

The greatest delight of the student of nature is to go out into the silence and the vastness and visit with God. Nature often seems to me like a person. A thoughtful, watchful mother—first born daughter of God—her head white with the snows of the ages, her cheeks ruddy with the eternal freshness of youth. Kindly she takes me by the hand and leads me into her holy of holies, where she unfolds her mysteries. "The secret of the Lord is with them that fear Him and He will show them his covenant." Now you have an interpreter you are in a land of delight.

For more than twenty years I have lost myself in the Rockies. I have been a student of this genial mother and conched her delightful lessons.

I well remember one trip from Pueblo to Beulah, a little hamlet resting in the bosom of the mountains. Mine has been a strenuous life, and I would get so tired that I must rest in the beauty and the solitude of those delightful regions, and at that time it seemed as if the good mother was doing her utmost to entertain me. A veil of cloud was spread over the vast ranges from the foothills to the tallest peaks. Now asportion of the curtain is lifted and Old Scraggy, which had been torn from the earth, threw his spires and turrets up into the azure. Then the cloud veil moved again and the vast forest arose, its emerald melting into the sapphire above. And thus the scene shifted as if unseen hands were moving the vast white curtains so as to disclose the beauty of the scene with the most delightful effect. And now the whole veil is lifted to float away in the upper depths.

Entering the beautiful valley hemmed in by mountains, a vast cloud that had lingered behind spread out like an immense umbrella above me, illumined by a weird, soft cathedral light. The fringes of the cloud rested on the surrounding peaks all aglow with ethereal beauty. I sat on a rock and for a long time drank in the scene. It seemed like a mother's royal welcome to a returning son.

The fleecy clouds in flocks of sheep came trooping over Mount Nebo and gathered all about me as in glad welcome to drive away my weariness. How kind are the sweet ministers of nature. I remember once in despondency I sat among my flowers. Each one seemed desirous of putting on its best robes, like a winsome maiden, to attract my attention from my sadness. And the birds commenced to sing, and what a concert they gave me! And finally a sociable robin peered at me as if to say, "Don't you feel better now?"

How I used to delight to take my place and sit up into the high altitudes among the most beautiful trees the world affords. Here is a sheltered place on the north side of the mountain. It is hemmed in by hills and forests. And in this quiet place Nature does her best. Did you ever realize what a landscape artist God is? He adjusts the beauty and harmony of all his creations? There is a mountain peak 2,000 feet tall. It is stupendous and awe inspiring in its grandeur and He lets it alone. On the back side there are shelves. There with infinite patience He plants the seeds. Trees grow, the needles fall and a forest appears. Perhaps it takes ages, but how beautiful it is. Sometimes sturdy trees appear on the verge of the wall. Their roots seek the crevices and there they cling and grow and cover the rock.

But here at this altitude let us enter this secret and silent place where God shows some of His highest art and teaching us a lesson in ornamental gardening we cannot forget. Away from the sweep of wind and storm He is doing his finest work. On the south side of the range in the full glare of the sun He has another system, where other trees are adjusted to their conditions. But here we will rest and gaze at Him. Here is the glorious Picea pungens. While young it is the most charming tree on earth. It is clothed in royal robes of silver and sapphire. It is a very Koh-i-noor among the forest gems. How it flashes in the sunlight! It is pyramidal in form, each year's growth marked by a separate shelf of branches. Why its name? One day I stumbled and fell into one. I found out every needle was a needle indeed, and my face was literally tattooed by them. No tree has ever drawn more attention or been more eagerly sought—sometimes the planting is overdone and the different forms of the great alpine family, with the shrubs and trees of that northern region, there should be also a Siberian section.

There should be an American section of North American trees, shrubs and flowers.

Everything in all departments should be named so that one child or man could study botany, arboriculture and floriculture from the great wide open out of door pages of nature, where he could learn ten times as fast as he would from the printed pages.

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